

VI. Claim Amendments under 37 C.F.R. § 1.121

1. (Currently amended) A composition comprising at least two isolated immunogenic ligands, wherein ^{of} ~~each~~ said immunogenic ligands are individually characterized by an ability to elicit an immune response against the same native ligand, and wherein said immunogenic ligand ^S is selected from the group consisting of FLQLLMEPV (SEQ ID NO:3), FLQLEFNAV (SEQ ID NO:5), FLWFEIDIV (SEQ ID NO:7), FLSYDLFVV (SEQ ID NO:9), and NLQLLMDRV (SEQ ID NO:11).

2. (Original) The composition of claim 1, further comprising a carrier.

3. (Original) The composition of claim 2, wherein the carrier is a pharmaceutically accepted carrier.

4. (Withdrawn) A host cell comprising at least two immunogenic ligands, wherein said immunogenic ligands are individually characterized by an ability to elicit an immune response against the same native ligand, and wherein said immunogenic ligand is selected from the group consisting of FLQLLMEPV (SEQ ID NO:3), FLQLEFNAV (SEQ ID NO:5), FLWFEIDIV (SEQ ID NO:7), FLSYDLFVV (SEQ ID NO:9), and NLQLLMDRV (SEQ ID NO:11).

5. (Withdrawn) The host cell of claim 4, wherein the host cell is an antigen presenting cell and the immunogenic ligands are presented on the surface of the cell.

6. (Withdrawn) The host cell of claim 5, wherein the antigen presenting cell is a dendritic cell.

7. (Withdrawn) A composition comprising the host cell of any of claims 4 to 6 and a carrier.

8. (Withdrawn) The composition of claim 7, wherein the carrier is a pharmaceutically accepted carrier.

9. (Currently amended) A method for inducing an immune response in a subject, comprising delivering to a subject a composition comprising an effective amount of two or more immunogenic ligands, wherein ~~each of said immunogenic ligands is characterized by an ability to elicit an immune response against the same native ligand, and wherein~~ ^{of} ~~each~~ said immunogenic ligand ^S is selected from the group consisting of FLQLLMEPV (SEQ ID NO:3), FLQLEFNAV (SEQ ID NO:5), FLWFEIDIV (SEQ ID NO:7), FLSYDLFVV (SEQ ID NO:9), and NLQLLMDRV (SEQ ID NO:11).

See
Examiner's
Amendment
5-26-01

See
Examiner's
Amendment
4

- 5 10. (New) A composition comprising an isolated ligand, wherein said ligand is selected from the group consisting of FLQLLMEPV (SEQ ID NO:3), FLQLEFDAV (SEQ ID NO:5), FLWFEIDIV (SEQ ID NO:7), and FLSYDLFVV (SEQ ID NO:9).

- 6 11. (New) The composition of claim 10, wherein said composition further comprises SEQ ID NO: 11.

- 7 12. (New) A composition comprising an isolated ligand consisting of SEQ ID NO: 11.

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13. (New) A method to generate antigen-specific immune effector cells comprising

a) delivering a ligand composition of claim 1, 10, or 11 to an antigen presenting cell, wherein said antigen presenting cell presents at least one ligand from said composition, and

b) mixing said antigen presenting cells with naive immune effector cells, wherein said immune effector cells proliferate and become antigen-specific at the expense of said antigen presenting cells.

14. (New) The composition of immune effector cells generated in claim 13.

15. (New) The method of claim 13, wherein the antigen presenting cell is a dendritic cell.

16. (New) The composition of claim 14, wherein the immune effector cells are T cells.

See
Examiner's
Amendment

- leukocyte antigen" or "HLA" complex. The proteins encoded by the MHC are known as "MHC molecules" and are classified into class I and class II MHC molecules. Class I MHC includes membrane heterodimeric proteins made up of an α chain encoded in the MHC noncovalently linked with the β 2-microglobulin. Class I MHC molecules are
- 5 expressed by nearly all nucleated cells and have been shown to function in antigen presentation to CD8⁺ T cells. Class I molecules include HLA-A, B, and C in humans. Class II MHC molecules also include membrane heterodimeric proteins consisting of noncovalently associated α and β chains. Class II MHC molecules are known to function in CD4⁺ T cells and, in humans, include HLA-DP, -DQ, and DR. In a
- 10 preferred embodiment, invention compositions and ligands can complex with MHC molecules of any HLA type. Those of skill in the art are familiar with the serotypes and genotypes of the HLA. See: ~~<http://bimas.dort.nih.gov/cgi-bin/molbio/hla-coefficient-viewing-page>~~. Rammensee H.G., Bachmann J., and Stevanovic S. MHC Ligands and Peptide Motifs (1997) Chapman & Hall Publishers;
- 15 Schreuder G.M. Th. et al. The HLA dictionary (1999) Tissue Antigens 54:409-437.

see
Examiner's
Amendment
5-24-06

The term "antigen-presenting matrix", as used herein, intends a molecule or molecules which can present antigen in such a way that the antigen can be bound by a T-cell antigen receptor on the surface of a T cell. An antigen-presenting matrix can be on the surface of an antigen-presenting cell (APC), on a vesicle preparation of an APC,

20 or can be in the form of a synthetic matrix on a solid support such as a bead or a plate. An example of a synthetic antigen-presenting matrix is purified MHC class I molecules complexed to β 2-microglobulin, multimers of such purified MHC class I molecules, purified MHC Class II molecules, or functional portions thereof, attached to a solid support.

- 25 The term "antigen presenting cells (APC)" refers to a class of cells capable of presenting one or more antigens in the form of antigen-MHC complex recognizable by specific effector cells of the immune system, and thereby inducing an effective cellular immune response against the antigen or antigens being presented. While many types of cells may be capable of presenting antigens on their cell surface for T-cell recognition,
- 30 only professional APCs have the capacity to present antigens in an efficient amount and further to activate T-cells for cytotoxic T-lymphocyte (CTL) responses. APCs can be intact whole cells such as macrophages, B-cells and dendritic cells; or other molecules,